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THOSE MYSTERIOUS BARN FIRES

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A radio talk by David J. Price, Bureau of Chemistry and Soils, delivered through WRC and 37 other radio stations associated with the National Broadcasting Company, Thursday, May 8, 1930 at 1:10 p. m., Eastern Standard Time.

★ MAY 1
U. S. Department of Agriculture

Back in 1892, Henry Wallace of Des Moines, Iowa, father of the late Secretary of Agriculture called attention to the "spontaneous" or "self" heating of hay. Mr. Wallace was discussing the curing of clover hay, and remarked upon the destruction of many barns from "mysterious" or "unknown" causes since the introduction of clover culture. I quote him: "Too many of these barns have been destroyed by fire to allow the farmer to regard the problem of spontaneous combustion as of interest merely to the scientist or perhaps to the manufacturer. Too many of these mysterious fires that have occurred in barns, sheds, and stacks have been regarded as the result of accident, or the farmer's pipe, or the nibbling by mice of matches dropped out of the boy's pocket as he was tramping hay in the mow." End of the quotation.

In 1889, Mr. Wallace stated, there were not less than 100 cases of spontaneous combustion in the State of Iowa. All had the same general features, and for some reason all but a few occurred in the northern part of the State.

Mr. Wallace's 40-year-old statement makes it evident that spontaneous or self heating cannot be considered entirely a new cause of barn fires. We have known about them for a long time, but science has not yet been able to explain just how they take place. We know that they play an important part in the fire toll of the country. The loss from spontaneous combustion on farms each year may be as high as \$30,000,000. This does not include the heavy losses from spoilage of farm products caused by spontaneous heating which stops short of causing fire.

The Department of Agriculture is giving especial attention to this baffling problem. During the past year it has put up an experimental barn on the animal husbandry farm at Beltsville, Maryland. This barn will be the laboratory for study of heating of hay under actual farm conditions. Chemists and engineers will try to find out under just what conditions hay will heat up of its own accord and take fire.

We start out with evidence indicating very definitely that the leguminous hays such as alfalfa, the clovers, and the vetches are more subject to heating than other kinds of hay such as timothy and other true grasses and the rushes and sedges that comprise the wild hay of some western sections.

We know that alfalfa and clover hays stored in an uncured condition or allowed to become wet from rain or dew are in danger of heating. We know that hay may heat in the stack, or in the mow. However, we haven't had reported so many instances of stack fires because usually only one stack is lost, and the owner doesn't report the small loss. But when barn-stored hay goes on a selfheating spree the resulting fire causes the loss of the barn and perhaps of other property, so we get reports on such fires.

There is about all we know for sure about spontaneous heating of hay. We can, however, offer you now, these following suggestions to reduce losses:

First, properly cure hay before storing.

(over)

Second, if you must store damp or improperly cured hay, add salt at the rate of about 10 pounds to the ton.

Third, Guard against leaky roofs and leaky sides of barns.

Fourth, Ventilate hay as freely as possible right after it is stored.

Fifth, examine often any suspicious hay in stack or mow. If you find it is too hot for comfort when you put your hand a few feet below the surface, examine the pile and find how far the heating has gone.

Sixth, when you find any unusual heating conditions in your stored hay, get in touch with the State or Federal authorities.

Now I earnestly hope that none of you have any fires during the coming season caused by spontaneous heating of hay. But if you do, I solicit your help in our investigations. We need all the facts we can get about such fires. Send us a detailed account of the circumstances. We are very anxious to secure direct reports concerning any of these "mysterious" fires. The more facts we have the quicker can we find out how to prevent them

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SALISBURY:

Where shall the listeners who happen to be unlucky this summer send those reports, Mr. Price?

MR. PRICE;

Send them to the United States Department of Agriculture at Washington. They'll get to us all right.